

TASMANIAN FUNGI.

BY L. RODWAY.

The importance of the study of fungi need not be enlarged upon. Everyone at all acquainted with modern botanical research is aware of the practical importance and great possibilities of this pursuit. In Cooke's Australian Fungi, and subsequently in McAlpine's Systematic Arrangement, we have our fungi up to their date included, but in view of recent numerous additions and probable immediate increase, it is desirable to have a more concise and available list to which new forms may year by year be added.

Had I followed my own inclination, I should have adopted a classification more in accordance with modern ideas, but in the interest of the student I considered it as well not to depart more than necessary from the order used by Cooke. The student must be prepared in this study to find much that is provisional. The subject is so enormous, the proper pursuit of it is so intricate, and the time devoted to it so recent that much incorrectness is permitted to remain until research is more complete. Thus many forms are still maintained as distinct plants when there is almost proof that they are but subordinate forms. This is very common amongst the Uredineæ and Pyrenomycetes, and perhaps almost universal amongst Hyphomycetes and Sphærospideæ.

There is one plant included here in two forms that might with safety be simplified only for its distinction being still maintained in Europe. It is possible I have been more fortunate than other observers in noting its development.

Lasiosphaeria ovina, Cesati, is a minute globular fungus, about $\frac{1}{50}$ th of an inch diameter, covered with white wool, and growing gregariously on rotting wood. The nucleus of each ascus takes up a position at the apex; the cytoplasm then arranges itself in eight sausage-like masses; in this form it is *L. ovina*, Cesati. In the fulness of time the head of each mass develops a hard dark epispore, or coat, into which the cytoplasm retreats, with the epispore contracting below forming an elliptical spore with, in the young condition, a hyaline tail formed of the unabsorbed membrane-like surface of the sausage-like body. The fungus is then recognised as *Sordaria caudata*, Sacc.

There is one new fungus I would record here: *Stephensia varia*, n.s., subterranean, irregularly spherical. Peridium rather thick, sub-cartilaginous. Gleba of one or more broad

contorted hymenial cells or tubes in a pithy fiberoid trama. Asci narrow, cylindrical. Paraphysis numerous linear. Sporidia spherical, smooth, hyaline, 20u. Very variable in size and proportionate development of tubes and trama. When small, $\frac{1}{2}$ - $\frac{3}{4}$ in. tube often single and not very contorted, with copious trama. When about lin. tubes fairly numerous, trama reduced, the tuber being then of a firmer consistency. In specimens about 2in. diameter the tubes are very numerous and large ($\frac{1}{4}$ in.), and trama very slight. These three forms may be persistently distinct, but the asci and sporidia not differing would lead one to infer they are forms of one plant. The small softer form is much sought by larvæ of small insects, the empty peridium is often found lying on the surface of the soil.

In the following list I have endeavoured to be as brief as possible. Of plants added since the publication of Cooke's Handbook, those described by McAlpine, in or not in conjunction with myself, may be found in Trans. R.S., Vict., Nov. 8th, 1894, or the Bulletin Dept. Agri., New South Wales, Nov., 1895, and Feb., 1896. Those by Massie often with myself, in the new Bulletin, probably in 1897, but the exact date of issue is not yet at my service.

I have included in this list the Mycetozoa, though fully alive to their independence.

HYMENOMYCETES.

Agaricineæ.—*Amanita ananæps*, Berk.

„ *grossa*, Berk.

Amanitopsis pulchellus, C. et M.

Lepiota cristata, Fr.

„ *procera*, Fr.

Armillaria mellea, Vahl.

„ *ramentacea*, Bull.

Tricholoma melaleuca, Fr.

„ *nuda*, Fr.

Clitocybe curtipes, Fr.

„ *schizophyllus*, Berk.

„ *inversus*, Scop.

„ *laccatus*, Scop.

„ *lilacina*, Mass.

„ *tuba*, Fr.

Collybia morula, Berk.

„ *radicata*, Fr.

„ *velutipes*, Fr.

- Mycena rubromarginata*, Fr.
 „ *atro-cyanea*, Fr.
 „ *galericulata*, Fr.
 „ *capillaris*, Fr.
 „ *cohærens*, Fr.
 „ *interrupta*, Berk.
 „ *flavovirens*, C. et M.
- Omphalia carneo-rufula*, Berk.
 „ *epichysium*, Fr.
 „ *flavo-crocea*, Berk.
 „ *integrella*, Fr.
 „ *umbellifera*, Fr.
- Pleurotus affixus*, Berk.
 „ *applicatus*, Fr.
 „ *bursæformis*, Berk.
 „ *lampas*, Berk.
 „ *diversipes*, Berk.
 „ *phosphorus*, Berk.
 „ *tasmanicus*, Berk.
 „ *tephrophanus*, Berk.
- Hygrophorus coccineus*, Fr.
 „ *hypothejus*, Fr.
 „ *subremotus*, C. et M.
- Lactarius piperatus*, Fr.
 „ *stenophyllus*, Fr.
 „ *subdulcis*, Fr.
- Russula alutacea*, Fr.
 „ *emetica*, Fr.
 „ *purpurea*, Gill.
 „ *coccinea*, Mass.
- Cantharellus cibarius*, Fr.
 „ *cinereus*, Fr.
 „ *pusio*, Berk.
 „ *strigipes*, Berk.
- Marasmius affixus*, Berk.
 „ *emergens*, Berk.
 „ *eucalpytus*, Berk.
 „ *hepaticus*, Berk.
 „ *meloniformis*, Berk.
 „ *subsupinus*, Berk.
- Lentinus fasciatus*, Berk.
 „ *hepatotrichus*, Berk.
 „ *pulvinulus*, Berk.
 „ *hirneolus*, Berk et Curr.

- Panus saccharinus*, Berk.
Xerotus archeri, Berk.
 „ *papyraceus*, Berk.
Schizophyllum commune, Fr.
Volvaria taylori, Berk.
Pluteus cervinus, Fr.
 „ *phæus*, Mass.
Entoloma paniculus, Berk.
Leptonia rodwayi, Mass.
Nolanea pascua, Fr.
Pholiota mutabilis, Fr.
Hebeloma fastibile, Fr.
 „ *nudipes*, Fr.
Flammula aldridgei, Mass.
Galera tenera, Fr.
Tubaria furfuracea, Fr.
Crepidotus auricula, Berk.
 „ *cassiæcolor*, Berk.
 „ *hepatochrous*, Berk.
 „ *insidiosus*, Berk.
 „ *interceptus*, Berk.
 „ *leptomorphus*, Berk.
 „ *palmatum*, Fr.
 „ *tubidulus*, Berk.
Cortinarius archeri, Berk.
 „ *cinnibarinus*, Fr.
Agaricus arvensis, Schæf.
 „ *campestris*, Linn.
 „ *silvaticus*, Schæf.
Stropharia semiglobata, Fr.
Hypholoma dispersa, Fr.
 „ *fasciculare*, Fr.
Psilocybe spadicea, Fr.
Psathyra gyroflexa, Fr.
Psathyrella disseminata, Fr.
Coprinus comatus, Fr.
 „ *plicatilis*, Fr.
 „ *stercorarius*, Fr.
 „ *atramentarius*, Fr.
 „ *deliquescens*, Bull.

- Polyporeæ*.—*Boletus fruticola*, Berk.
 „ *megalosporus*, Berk.
 „ *luridus*, Schæf.
 „ *rodwayi*, Mass.

Fistulina hepatica, Fr.

- Polyporus angustus*, Berk.
 „ *campylus*, Berk.
 „ *elegans*, Fr.
 „ *frondosus*, Fr.
 „ *gunnii*, Berk.
 „ *mylittæ*, C. et M.
 „ *pelliculosus*, Berk.
 „ *portentosus*, Berk.
 „ *rhinocephalus*, Berk.
 „ *scruposus*, Fr.
 „ *sulphureus*, Fr.
 „ *tephronotus*, Berk.
 „ *umbilicatus*, Berk.
 „ *varius*, Fr.
 „ *tumulosus*, Cooke.
 „ *lacteus*, Fr.

Fomes australis, Cooke.

- „ *gourliei*, Cooke.
 „ *igniarius*, Cooke.
 „ *lucidus*, Cooke.
 „ *rimosus*, Cooke.
 „ *rubiginosus*, Cooke.
 „ *rudis*, Cooke.
 „ *tasmanicus*, Cooke.

Polystictus brunneo-albus, Cooke.

- „ *bulbipes*, Cooke.
 „ *cinnabarinus*, Cooke.
 „ *feei*, Cooke.
 „ *friesii*, Cooke.
 „ *intonsus*, Cooke.
 „ *latus*, Cooke.
 „ *lilacino-gilvus*, Cooke
 „ *oblectans*, Cooke.
 „ *radiato-rugosus*, Cooke.
 „ *sanguineus*, Cooke
 „ *vernificfluus*, Cooke
 „ *versicolor*, Cooke.
 „ *xerophyllus*, Berk.

Poria aprica, Cooke.
 „ archeri, Cooke.
 „ hyalina, Cooke.
 „ membranincta, Berk.
 „ merulina, Cooke.
 „ orbicularis, Cooke.
 „ subvineta, Cooke.
 „ vaporaria, Cooke.

Trametes ochroleuca, Cooke.
 „ carteri, Berk.

Hexagonia gunnii, Berk.

Dædalea tasmanica, Sacc.

Favolus pusillus, Fr.

Merulius corium, Fr.
 „ pallens, Berk.

Hydnœe.--*Hydnum* cervinum, Berk.
 „ filicolum, Berk.
 „ lævigatum, Sw.
 „ repandum, Linn.
 „ udum, Fr.
 „ graveolens, Delast.
 „ nigrum, Fr.
 „ agresii, Berk.
 „ caput-medusæ, Fr.
 „ plumosum, Fr.
 „ mucidum, Pers.
 „ fasciculatum, Berk.
 „ isidioides, Berk.
 „ pexatum, Mass.

Irpex archeri, Berk.
 „ zonatus, Berk.
 „ consors, Berk.
 „ depauperatus, Mass.

Grandinia australis, Berk.
 „ granulosa, Fr.

Kneiffia wrightii, Berk. et Curt.
 „ setigera, Fr.

Porothelium subtile, Berk.

Odontia secernibilis, Berk.
 „ scopinella, Berk.

Thelephoreae.—*Craterellus multiplex*, C. et M.

„ *pusio*, Berk.

Thelephora archeri, Berk.

„ *riccioidea*, Berk.

Stereum acerinum, Fr.

„ *concolar*, Berk.

„ *hirsutum*, Fr.

„ *illudens*, Berk.

„ *lobatum*, Fr.

„ *ochroleucum*, Fr.

„ *purpureum*, Pers.

„ *pusillum*, Berk.

„ *sowerbei*, Mass.

„ *spadiceum*, Fr.

Hymenochæte archeri, Cooke.

„ *mongeotii*, Cooke.

„ *rubiginosa*, L'ev.

„ *tasmanica*, Mass.

„ *corrugata*, L'ev.

„ *tenuissima*, Berk.

Corticium arachnoideum, Berk.

„ *archeri*, Berk.

„ *calceum*, Fr.

„ *læve*, Pers.

„ *sebaceum*, Mass.

„ *sambuci*, Fr.

Peniophora rosea, Mass.

„ *berkeleyi*, Cooke.

Coniophora sulphurea, Mass.

„ *viridis*, Cooke.

Hypochnus chlorinus, Mass.

Cyphella capula, Fr.

„ *muscigena*, Fr.

„ *pteridophylla*, Cooke.

„ *musciicola*, Fr.

Solenia anomela, Fr.

„ *candida*, Pers.

- Clavariæ*.—*Claveria archeri*, Berk.
 „ *botrylis*, Pers.
 „ *cristata*, Pers.
 „ *flava*, Sch.
 „ *inæqualis*, Muell.
 „ *juncea*, Fr.
 „ *rhizomorpha*, Berk.
 „ *tasmanica*, Berk.
 „ *phyllophila*, M' Alf et Rod.
 „ *amethystina*, Bull.
 „ *pyxidata*, Pers.

Tremelinæ.—*Auricularia minuta*, Berk.

- Hirneola auricula-judæ*, Berk.
 „ *vittelina*, Fr.

- Exidia albida*, Bref.
 „ *glandulosa*, Fr.

Ulocolla filiocea, Bref.

- Tremella frondosa*, Fr.
 „ *lutescens*, Pers.
 „ *olens*, Berk.
 „ *viscosa*, Berk.
 „ *sarcoides*, Fr.

Tremellodon gelatinosum, Pers.

- Dacryomyces deliquescens*, Dal.
 „ *miltinus*, Berk.
 „ *sclerotioides*, Berk.
 „ *seriatus*, Berk.

Guepinia pezizæformis, Berk.

- Calocera glossoides*, Fr.
 „ *guepinioides*, Berk.

GASTEROMYCETES.

Pilacreceæ.—*Pilacre divisa*, Berk.

- Pholloideæ*.—*Clathrus gracilis*, Sch.
Anthurus archeri, Fisch.
Aseroë lysuroides, Fisch.
 „ *rubra*, La Bill

Nidulariæ.—*Nidularia fuispora*, Mass.

- Cyathus colensoi*, Berk.
Crucibulum vulgare, Tul.
Sphæroboles stellatus, Tode.

Lycopodeæ.—*Secotium erythrocephalum*, Tul.

„ *gunnii*, Berk.

„ *rodwayi*, Mass.

Mesophellia arenaria, Berk.

Tylostoma mammosum, Fr.

Calostoma fusca, Mass.

Geaster archeri, Berk.

„ *australis*, Berk.

„ *fimbriatus*, Fr.

„ *saccatus*, Fr.

„ *tenuipes*, Berk.

Diploderma glauca, C. et M.

Lycoperdon australi, Berk.

„ *cælatum*, Bull.

„ *gemmatum*, Bat.

„ *glabrescens*, Berk.

„ *gunnii*, Berk.

„ *lilacinum*, Spreng.

„ *pyriforme*, Sch.

„ *tasmanicum*, Mass.

Sclerodermeæ.—*Castoreum radicum*, C. et M.

Scleroderma geaster, Fr.

„ *vulgare*, Fr.

Polysaccum australi, L'ev.

Hymenogastreæ.—*Octaviana archeri*, Berk.

Hymenogaster rodwayi, Mass.

„ *violaceus*, Mass. et Rod.

„ *albellus*, Mass. et Rod.

Hydnangium tasmanicum, Kal.

„ *australiense*, B. et Br.

„ *carneum*, Klot.

Hysterangium affine, Mass. et Rod.

„ *membranaceum*, Vilt.

„ *fusiporum*, Mass. et Rod.

„ *clathroides*, Vilt.

„ *viscidum*, Mass. et Rod.

Gymnomyces pallidus, Mass. et Rod.

„ *seminudus*, Mass. et Rod.

ASCOMYCETÆ.

Tuberoidea.—Hydnocystis cyclospora, Mass. et Rod.

Stephensia varia, Rod

Endogone australis, Berk.

Genebea tasmanica, Mass. et Rod.

Discomycetæ.—Cyttaria gunnii, Berk.

Morchella conica, Pers.

„ deliciosa, Fr.

„ elata, Fr.

Helvella monachella, Fr.

Mitrula vinosa, Berk.

„ cocculata, Fr.

Leotia lubrica, Pers.

Geoglossum australe, Berk.

„ lignicolum, Mass.

Peziza aurantia, Pers.

„ cochleata, Linn.

„ vesiculosa, Bull.

Discina repanda, Wahl.

Humaria carbonigena, Sacc.

„ fuispora, Sacc.

„ muelleri, Berk.

„ recurva, Cooke.

„ miniata, Cooke.

Barlæa miltina, Cooke.

Sarcoscypha coccinea, Sacc.

Lachnea scutellata, Gill.

„ stercorea, Gill.

„ hirta, Sch.

„ coprinaria, Phil.

Sclerotinia dubia, Mass. et Rod.

Ciboria firma, Fekl.

Helotium citrinum, Fr.

„ gratum, Cooke.

„ nigripes, Fr.

„ pateræformis, Cooke.

„ prasinum, Mass.

- Phialea byssogena*, Sacc.
 „ *ceratina*, Sacc.
Pseudohelotium hyalinum, Fckl.
Chlorosplenium omniverens, Cooke.
Mollisia cinerea, Karst.
Tapesia epitaphra, Sacc.
Dasycypha eucalypti, Sacc.
 „ *lacnoderma*, Reh.
 „ *virginica*, Fckl.
Belonidium araneosum, Sacc.
Ascobolus archeri, Berk.
 „ *furfuraceus*, Pers.
Ascophanus equinus, Mass.
Urnula rhytidea, Berk.
Coryne sarcoides, Tul.
Stictis radiata, Pers.
Pseudopeziza medicaginis, Lih.
Patinella tasmanica, Sacc.
Patellaria maura, Mass.
Exoascus deformans, Fckl.

Hysteriaceæ.—*Glonium stellatum*, Muell.
 „ *tardum*, Sacc.

Pyrenomycetæ.—*Claviceps purpurea*, Fr.

- Cordyceps gunnii*, Berk.
 „ *hawkesii*, Gray.
 „ *scottianus*, Iliffe.

- Hypocrea citrina*, Fr.
 „ *rufa*, Fr.
 „ *semiorbis*, Berk.
 „ *nebulosa*, Mass.

- Nectria coccinea*, Fr.
 „ *cinnibarina*, Fr.
 „ *fusarioides*, Berk.
 „ *tasmanica*, Berk.
 „ *ditissisna*, Fr.

- Hypomyces tomentosus*, Fr.
 „ *fulgens*, Karst.
Dialonectria tephrothele, Berk.
 „ *sanguinea*, Sib.
Ophionectria agaricicola, Sacc.
Gibberella saubenetii, Sacc.
Melanospora caprina, Sacc.
Xylaria castorea, Berk.
 „ *corniformis*, Fr.
 „ *ellipsospora*, C. et M.
 „ *tuberiformis*, Berk.
 „ *digitata*, Fr.
 „ *cupressiformis*, Beccari.
Poronia punctata, Fr.
Nummularia bulliardi, Tul.
Daldinia concentrica, Ces.
Hypoxyton annulatum, Mont.
 „ *archeri*, Berk.
 „ *argillaceum*, Berk.
 „ *coccineum*, Bull.
 „ *cohærens*, Fr.
 „ *hians*, C. et Berk.
 „ *multiforme*, Fr.
 „ *serpens*, Fr.
 „ *cælatum*, Ces.
Phyllachora trifolii, Fekl.
Gibbera fulvella, Mass.
Dothidia alyxiæ, Mass.
Darwiniella globulosa, Sacc.
Trabutia eucalypti, C. et M.
Parodiella banksii, Sacc.
Cryptovalsa elevata, Sacc.
Quarternaria aspera, Mass.

- Eutypa lata*, Tul.
Gibberidea archeri, Cooke.
Byssosphæria æquila, Cooke.
Rosellinia mammoidea, Sacc.
Lasiosphæria ovina, Ces.
Sordaria caudata, Sacc.
Sphærella fragariæ, Sacc.
Pleospora mori, Sacc.
Læstadia destructiva, B. et V.
 ,, *insidiosa*, Mass.
Podosphæra tridactyla, De Bary.
Sphærotheca pannosa, L'ev.
Erysiphe graminis, D.C.
 ,, *vitigera*, C. et M.
Eurotium herbariorum, Liuk.
Asterina corriæcola, C. et M.
 ,, *systema solare*, Mass.
Asterella subcuticolosa, Cooke.
Dimerosperium tasmanicum, Mass.
Meliola corallina, Mont.
 ,, *amphitricha*, Fr.
Antennaria scoriadea, Berk.

Sphæropsides.—*Phyllosticta circumscissa*, Cooke.

- Phoma ampelina*, B. et C.
Staganospora chalybea, Mass.
Sphæronomella rufa, Sacc.
Leptostromella eucalypti, C. et M.
Glæosporium versicolor, B. et C.
 ,, *lagenarium*, Sacc. et Rod.
Libertella aurantiaca, Mass.

HYPODERMEÆ.

- Ustilagineæ*.—*Ustilago lagenophoræ*, M'Alp.
 ,, *caricis*, Pers.
 ,, *tritici*, Pers.
 ,, *arvenæ*, Pers.
 ,, *hordei*, Pers.

Tilletia tritici, Win.

Sphacelotheca hydropiperis, Berk.

Urocystis solida, Wald.

Uredineæ.—*Uromyces puccinoides* Berk.

Æcidium goodeniacearum, Berk.

Uromyces asteris, M'Alp.

„ *betæ*, Pers.

„ *orchidearum*, C. et M.

„ *amygdali*, Cooke.

„ *trifolii*, Hedw.

Melampsora lini, Tul.

Puccinia ægra, Grove.

Æcidium depauperans.

Puccinia violæ, Sch.

Æcidium violarum.

Puccinia alyxiæ, C. et M.

„ *graminis*, Pers.

Uredo lineari, Berk.

Puccinia rubigo-vera, Pers.

Uredo rubigo-vera, Berk.

Puccinia lagensphoræ, Cooke.

„ *malvacearum*, Mont.

„ *pruni*, Pers.

„ *corrææ*, M'Alp.

„ *plagianthi*, M'Alp.

„ *gei*, M'Alp.

„ *epilobii*, D.C.

Æcidium epilobii, Berk.

Uredo epilobii, Berk.

Puccinia coprosmatis, Morrison.

Æcidium cystoseiroides, Berk.

Puccinia tetragonix, M'Alp.

„ *conglomerata*, Sch.

Æcidium senecionis, Des.

Puccinia phragmites, Sch.
 „ *saccardoi*, Tud.
 „ *aucta*, Müll.

Æcidium lobeliæ, Thum.

Phragmidium barnardi, Plow.

Æcidium ranunculacearum, D.C.
 „ *soleniiforme*, Berk.
 „ *eburnum*, M' Alp.
 „ *bellidis*, Thum.
 „ *monocystis*, Berk.
 „ *compositarum*, Mart.
 „ *plantaginis*, Ces.
 „ *veronicæ*, Berk.

Uredo armillata, Ludu.

Hyphomycetæ.—*Trichoderma viride*, Pers.

Aspergillus glaucus, Link.

Penicillium glaucum, Link.

Rhinotrichum microsporum, Berk.

Botrytis vulgaris, Link.

Verticillium niveum, Berk.

Fusicladium dendriticum, Fckl.

„ *pyrinum*, Fckl.

Scolecotrichum sticticum, B. et Br.

Cladosporium herbarum, Link.

Helminthosporium inconspicuum, Cooke.

Macrosporium tomato, Cooke.

„ *solani*, E. et M.

Isaria umbrina, Pers.

„ *radians*, Berk.

Harpographium corynelioides, C. et M.

Podosporium grande, Cooke.

Fusarium lateritium, Nees.

Strumella patelloidea, C. et M.

Phycomycetæ.—*Pilobolus pullus*, Mass.

Mucor mucedo, Linn.

„ *cervinoleucus*, Berk.

Cystopus candidus, L'ev.

Peronospora schleideni, Ung.

Empusa museæ, Cohn.

Saprolegnia ferax, L'ev.

Mycetozoa.—*Tubulina cylindrica*, D.C.

Stemonitis friesiana, De Bary.

„ *fusca*, Roth.

Lamproderma echinulata, Rost.

„ *listeri*, Mass.

Prototrichia metallica, Mass.

Arcyria rubiformis, Mass.

„ *incarnata*, Pers.

Trichia affinis, De Barry.

„ *contorta*, Rost.

„ *fragilis*, Rost.

„ *kelbreyeri*, Mass.

„ *varia*, pers.

„ *verrucosa*, Berk.

Didymium spumarioides, Fr.

„ *squamulosum*, Fr.

Craterium confusum, Mass.

Badhamia varia, Mass.

Tilmadoche nutans, Rost.

Leocarpus fragilis, Rost.

Fuligo varians, Sorsure.

Plasmodiophora brassicæ, Wor.

Amongst the Uredines, where æcidial or uredo forms have received special names, but their relationship to telento-fruitifications have been traced, I have placed them together.